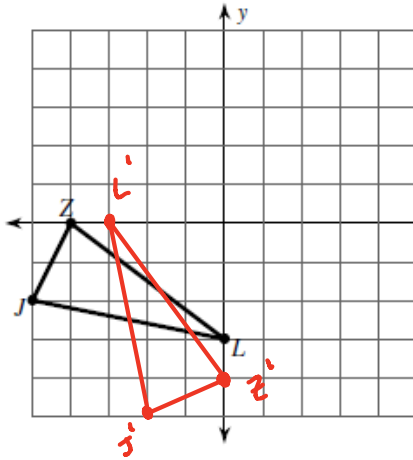# Math 2
# Unit 1 Quiz 1 Review

Name:___Key___

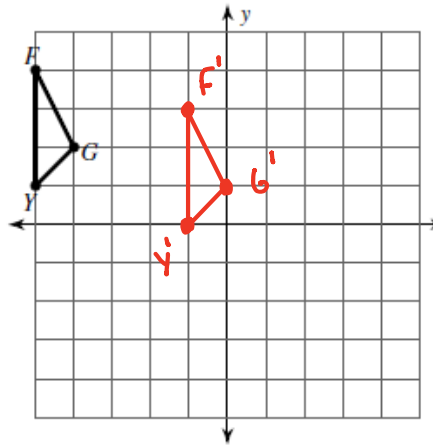Graph the image of the figure using the transformation given AND write the algebraic rule.

1) rotation 90° counterclockwise about the origin

Algebraic Rule:
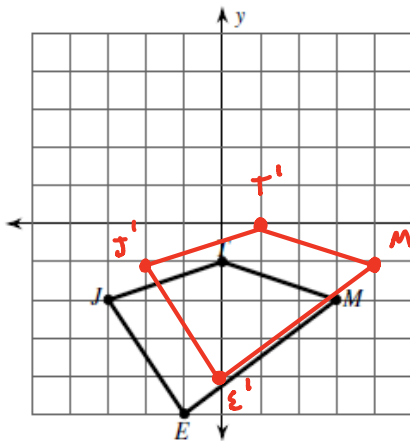
$(x,y) \rightarrow (y, -x)$

Notation:

$R_0 \, 90°$

2) translation: 4 units right and 1 unit down

Algebraic Rule:

$(x,y) \rightarrow (x+4, y-1)$
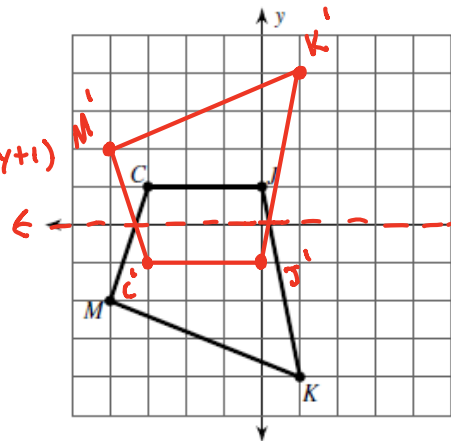
Vector: $\langle 4, -1 \rangle$
~~Notation:~~

3) translation: 1 unit right and 1 unit up

Algebraic Rule:

$(x,y) \rightarrow (x+1, y+1)$

Vector: $\langle 1, 1 \rangle$
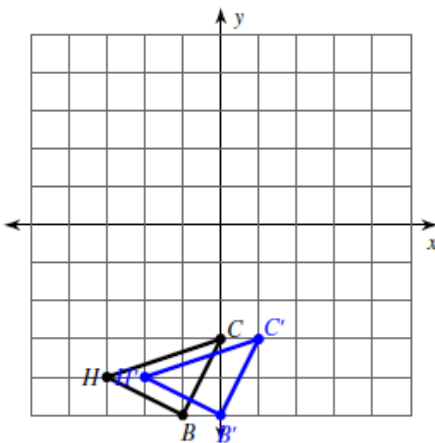~~Notation:~~

4) reflection across the x-axis

Algebraic Rule:

$(x,y) \rightarrow (x, -y)$

Notation: $R_{x-axis}$

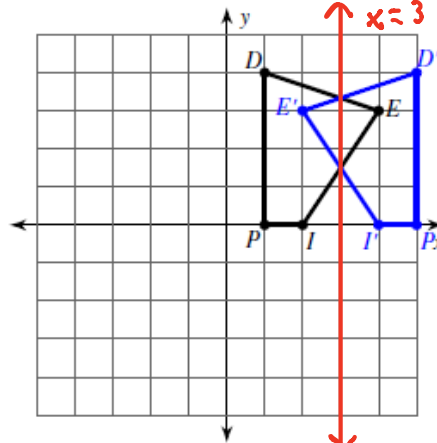Write a verbal description and a motion rule, as requested, to describe each transformation.
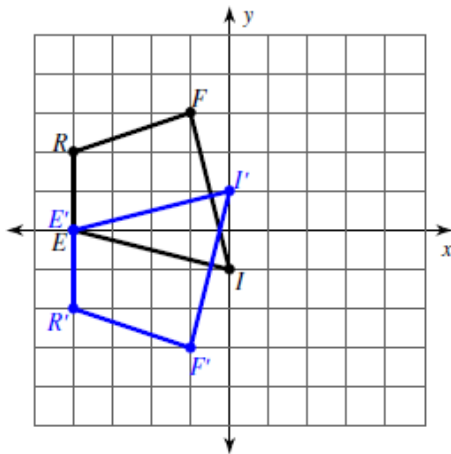
5)

Description:

Right 1

Algebraic Rule:

$(x,y) \rightarrow (x+1, y)$

6)

x=3

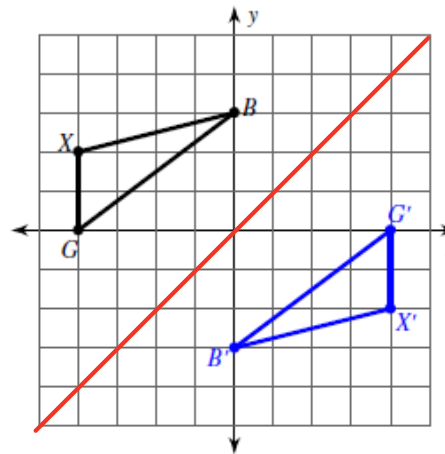Description:

Reflection over the line x=3

**7)**



Description: **Reflection over the x-axis**

Algebraic Rule: $(x,y) \rightarrow (x,-y)$

**8)**



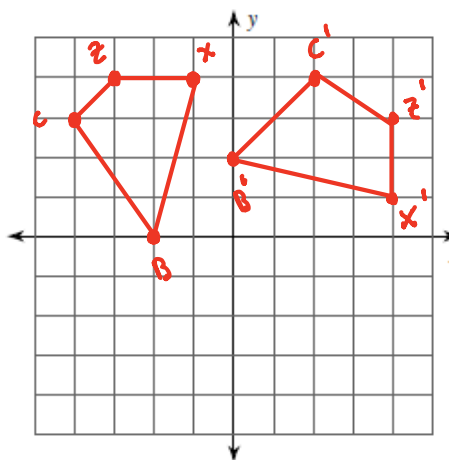Description: **Reflection over the line y = x**

Algebraic Rule: $(x,y) \rightarrow (y,-x)$

Graph the image of the figure using the transformation given and write the algebraic rule.

**9)** rotation 90° clockwise about the origin
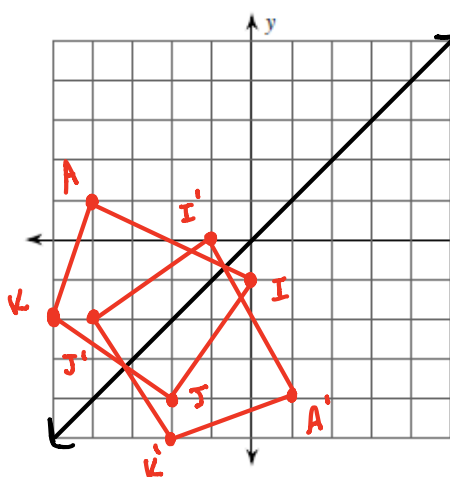B(−2, 0), C(−4, 3), Z(−3, 4), X(−1, 4)



Algebraic Rule: $(x,y) \rightarrow (y,-x)$

Notation: $R_O \ 90°$

**10)** reflection across y = x
K(−5, −2), A(−4, 1), I(0, −1), J(−2, −4)



Algebraic Rule: $(x,y) \rightarrow (y,x)$

Notation: $R_{y=x}$

Find the coordinates of the vertices of the figure using the transformation given and write the algebraic rule, as requested.

**11)** rotation 180° about the origin
E(2, −2), J(1, 2), R(3, 3), S(5, 2)

Vertices:
$E'(-2,2) \ J'(-1,-2) \ R(-3,-3) \ S(-5,-2)$

Algebraic Rule: $(x,y) \rightarrow (-x,-y)$

Notation: $R_O \ 180°$

**12)** reflection across y = 2
J(1, 3), U(0, 5), R(1, 5), C(3, 2)

Vertices:

Notation:

**13)** translation: 7 units right and 1 unit down
J(−3, 1), F(−2, 3), N(−2, 0)

Vertices:
$J'(4,0) \ F'(5,2) \ N(5,-1)$

Algebraic Rule: $(x,y) \rightarrow (x+7, y-1)$

~~Notation:~~
Vector: $\langle 7, -1 \rangle$

**14)** translation: 6 units right and 3 units down
S(−3, 3), C(−1, 4), W(−2, −1)

Vertices:
$S'(3,0) \ C'(5,1) \ W'(4,-4)$

Algebraic Rule: $(x,y) \rightarrow (x+6, y-3)$

~~Notation:~~
Vector: $\langle 6, -3 \rangle$